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Before the  
FEDERAL COMMUNICATIONS COMMISSION  
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**JUN 21 1993**

**FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF THE SECRETARY**

In re

# Implementation of Sections of the Cable Television Consumer Protection and Competition Act of 1992

## Rate Regulation

MM Docket 92-266

**TO: The Commission**

## PETITION FOR RECONSIDERATION

**CORNING INCORPORATED**  
**SCIENTIFIC-ATLANTA, INC.**

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## SUMMARY

Corning Incorporated and Scientific-Atlanta, Inc. respond to the Commission staff's public call for specific proposals to avert widespread nullification of the benchmark/price cap mechanism created by the Commission to serve as its primary mode of cable rate regulation. In its efforts to construct a rate formula turning on a very limited set of variables, the Commission failed to allow cable operators the means to recover the cost of capital investment. This factor alone will likely drive a great many cable operators to opt out of the benchmark/price cap regime and insist on a cost-of-service showing. If deterred by the burden and uncertainty attending such a showing, however, cable operators will have little alternative but to cut back dramatically on what had been a rapidly growing investment in fiber optics and other advanced technologies.

Corning and Scientific-Atlanta believe the threat these regulations pose to capital investment is not a product of cable industry puffery, but indeed very real. They in fact commissioned independent financial consultants to analyze the anticipated impact of the regulations. The results of this study, appended to this petition, have only heightened the companies' initial belief that critical opportunities for a growing business with the cable industry are indeed at stake.

The stakes, however, go far beyond the economic interests of any particular supplier of advanced technology



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**I. THE CABLE INDUSTRY HAS BEEN EMERGING AS AN IMPORTANT USER OF FIBER OPTICS AND OTHER ADVANCED TECHNOLOGIES**

Corning has held a leading role in the development of fiber optic technology for more than a quarter-century. As the inventor of the optical fiber now sought by both the cable and telephone industries, Corning overcame initial skepticism from both the technical and financial communities regarding the potential of the technology. Indeed, Corning has developed its communications operations into a business generating more than \$1 billion in sales in 1992, much of it driven by continued growth in worldwide demand for optical fiber and optical cable.<sup>3</sup>

Scientific-Atlanta is a world leader in broadband communications systems, cable television electronics, satellite-based communications networks, and instrumentation for industrial, telecommunications, and government applications. The company is a leading supplier of products and systems for building and operating the most modern and

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<sup>2</sup>(...continued)  
Docket No. 92-266 (filed January 27, 1993) ("TIA Comments"), which urged the Commission to craft rate regulations that would at the least not discourage rebuilds and upgrades by cable systems.

<sup>3</sup> This sales figure includes revenue from Corning and its consolidated affiliates' sales of optical fiber, optical cable, passive optical components, glass for cathode ray color television tubes, glass for active matrix flat panel displays, and other products and services for the communications sector. Because of increased demand for fiber optic cable in the feeder portions of telephone networks, in cable systems, and in premises wiring systems, Corning in 1992 completed a major expansion of its Wilmington, N.C. optical fiber manufacturing facility.

efficient cable television plants. In particular, Scientific-Atlanta is the leading manufacturer of headend and distribution equipment, and it is one of the two leading producers of subscriber equipment for the cable television industry. Over the past 20 years, company sales have grown from \$15 million to \$750 million. During this period the company has created 3,000 jobs, and its exports have increased at a compound annual rate of almost 20 percent and are expected to comprise 50 percent of sales by the end of the decade.

Corning and Scientific-Atlanta have witnessed first-hand the significant part that cable operators have begun to play in the market for fiber optics and related technology.

providers.<sup>5</sup> In each of the last two years, cable spending on fiber optics nearly doubled over the industry's spending in the previous year, and cable deployment has begun to extend fiber penetration ever closer to individual homes.<sup>6</sup>

While progressing swiftly of late, the upgrading of cable infrastructure is still in its early stages. Major system upgrades remain in the planning phase for many cable operators. Operators reportedly planned to invest more than \$14 billion during the next decade in system upgrades, essentially rebuilding more than 75 percent of existing systems.<sup>7</sup> Prior to the Commission's cable rate ruling, Corning had anticipated that the industry would increase its fiber demand by substantially more than 60 percent in 1993.

One a recently burgeoning supplier and the other a long-established supplier to the cable television industry, Corning and Scientific-Atlanta respectively are well

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<sup>5</sup> See TIA Comments at 2-3. The growth rate for fiber deployment by the cable industry was approximately 100 percent in 1992, compared to 30 percent for local exchange carriers and 14 percent for interexchange carriers. Id.

<sup>6</sup> Id. at 3-4. From having passed no homes with fiber just four years ago, cable now passes more than 10 million homes with optical fiber (as defined by homes served by an optical node). While thus still only passing some 17 percent of cable subscriber homes nationwide, the industry has consistently deployed fiber closer to the home every year. According to Corning estimates, the average number of homes served by an optical node has dropped from 10,000 in 1990 to 500-2,500 this year and was expected to drop to 100-500 homes next year in "full service network" areas.

<sup>7</sup> National Cable Television Association, Cable Television and America's Telecommunications Infrastructure at 1 (April 1993) ("NCTA Infrastructure Paper").



## II. THE COMMISSION'S BENCHMARK/PRICE CAP MECHANISM FAILS TO

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somehow be expected to fund and recoup this investment through the annual GNP-PI (Gross National Product Price Index) adjustment.<sup>9</sup>

The Report & Order additionally suggests, without explanation, that upgrades resulting in increased channel capacity will provide cable operators with additional revenues per subscriber.<sup>10</sup> It is unclear whether this comment contemplates that, going forward, cable operators will be able to recalculate their initial benchmark rate, or perhaps multiply their adjusted per channel rate, in a way that credits them for subsequently added channel capacity on regulated tiers.<sup>11</sup> In any event, given the sharply declining incremental values the Commission's benchmark

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<sup>9</sup> Even assuming that the Commission's allowance of pass-throughs for the cost of satisfying franchise requirements would encompass the cost of franchise-required upgrades, the typical cable operator undertaking system improvements on its own initiative would still lack relief -- absent a successful cost-of-service showing. See also infra note 40.

<sup>10</sup> Footnote 608 also suggests that cable operators can defray the costs of system improvements through the resulting reduction in maintenance and other service expenses. While such cost savings are sure to follow, they are unlikely to

matrix attributes to higher levels of channel capacity,<sup>12</sup> it is clear that either approach would fall far short of providing cable operators the means to recover the massive capital investment required for a substantial system expansion or upgrade.

After initial construction, capital investment for system expansion and upgrades is likely to be the single largest cost a cable operator directly incurs. The necessity and magnitude of this investment has only become greater, moreover, in the face of the Cable Act's "must-carry" and consumer equipment compatibility obligations, as well as the impending transition to advanced, high definition television. Investments of this nature would normally be recovered over an extended period, perhaps as long as 20 years. Even so, these extraordinary, once-a-decade sort of investments cannot be recovered through a regulatory mechanism providing little, if anything, more than an annual adjustment for the effects of inflation on a cable operator's ordinary costs of doing

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<sup>12</sup> These benchmark values are, of course, derived from the rates of surveyed cable systems meeting the statutory "effective competition" definition. There is no basis simply to assume that those systems, particularly those in "overbuild" situations, had invested in system advancements to the same extent as the industry as a whole. See TIA Comments at 21 (citing Kagan study finding only one of 50 "overbuild" areas where both operators had deployed fiber). Even if those systems were broadly representative of the industry as a whole, moreover, the industry's steep growth rate in expenditures for system expansion and upgrade (see discussion supra) would cause any benchmark derived from yesterday's "snapshot" of select systems' capacity to underestimate greatly capital requirements going forward.

business. Cable operators will be pressed just to cover the increases in their non-capital internal costs with this inflation adjustment. The benchmark/price cap mechanism simply denies cable operators the means to cover their capital expenditures, not to mention the return, required when investing in significant system improvements.

**III. THE CURRENT RULES WILL RESULT IN A PREDICTABLE DECLINE IN CAPITAL INVESTMENT, THREATENING SUBSTANTIAL DELAYS -- IF NOT COMPLETE ABANDONMENT -- OF CABLE OPERATORS' PLANS TO IMPROVE CABLE SERVICE BY DEPLOYING ADVANCED TECHNOLOGY**

As they now stand, the Commission's rate regulations will seriously retard the rapidly growing rate of advanced technology deployment by effectively eliminating cable operators' means of readily recovering capital investments. By artificially winnowing out cable as a viable broadband provider, the rules likely will deprive many American consumers of early opportunities to enjoy better signal quality, improved system reliability, and access to new programming made possible by advanced technology, while also stripping the U.S. telecommunications industry of the domestic experience vital to success in international ventures.

The significant drag the new rate regulations would place on cable's deployment of advanced technology is simple to trace, even if some figures can only be estimated. Unless cost-of-service showings become less of an "escape valve" and more of a routine and (somehow) expeditious alternative, the

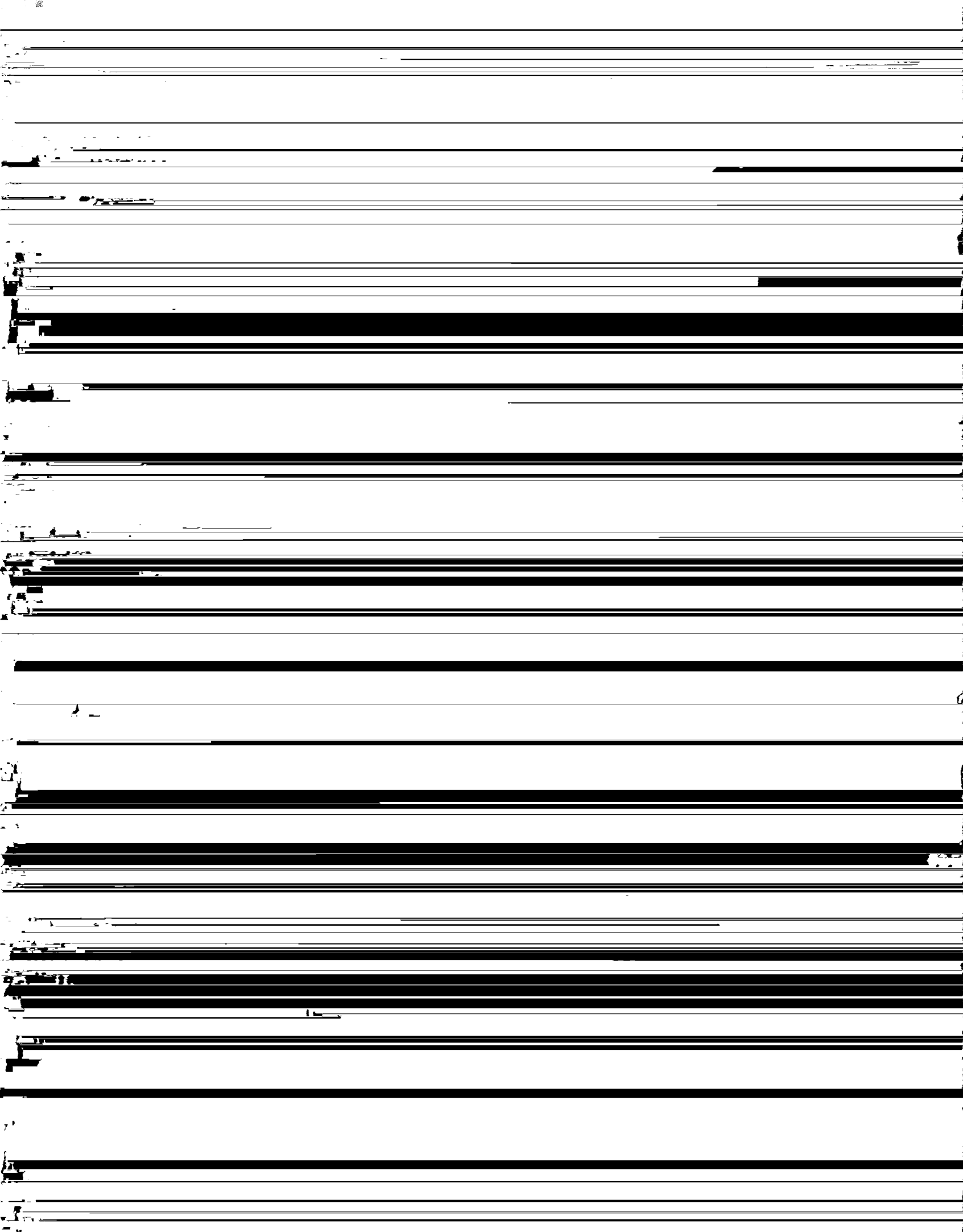
Commission's rate regulations are expected to cause a significant drop in cable systems' cash flow.<sup>13</sup> Cable's ability to make substantial capital improvements, in turn, will be severely hampered.<sup>14</sup> Thus, even though a cable operator may be eager to move forward with fiber optic deployment or other large-scale technological upgrades of its system, the operator likely will be unable to implement its plans, at least for the foreseeable future.

To determine whether the expected impact of the Commission regulations on cable industry capital investment indeed stands up to careful analysis, Corning and Scientific-Atlanta commissioned Deloitte & Touche to undertake its own study of this issue. Using the actual financial data of three different cable operators for 1990-92, Deloitte analysts compared the cash flow and capital expenditure

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<sup>13</sup> Cash flow generation is the primary means by which cable operators are able to secure financing for expanding and upgrading their systems and to service debt.

<sup>14</sup> The cable industry's earlier bout with "highly leveraged transaction" ("HLT") restrictions serves as a dramatic example of the stifling impact that federal regulation can have on cable industry investment. Implemented in late 1989, these restrictions essentially classified cable industry borrowing as an HLT and thereby severely limited the industry's access to investment funds. The impact fell disproportionately on capital investment and thus equipment suppliers, who were forced to lay off thousands of employees. Capital expenditures for cable construction and equipment dropped from \$2.1 billion in 1989 to \$1.5 billion within two years. Most suppliers' domestic businesses fell off 30-40 percent, according to Scientific-Atlanta's estimates. Corning's data indicates that cable



Commission's benchmark/price cap regime would be to choke cable industry cash flow by an average of 22 percent.<sup>17</sup>

Second, a substantial proportion of the composite company's costs are fixed in nature, including debt obligations and expenses related to ongoing service provision.<sup>18</sup> Given the industry's debt structure in particular, it is not surprising that several operators have disclosed to Corning and Scientific-Atlanta concerns about violating their loan covenants.<sup>19</sup> Indeed, the Deloitte Study indicates that its composite cable company would violate its loan covenants regarding debt-to-cash flow ratios for at least the first three years of rate regulation.<sup>20</sup> The composite company also would violate covenants concerning interest coverage ratios for at least the first two years of regulation.<sup>21</sup>

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<sup>17</sup> Deloitte Study at 4. Translated into dollar, the reductions are dramatic when considered on an individual company basis. For example, one of the larger MSOs has estimated confidentially that it will see a decrease of as much as \$70 million in revenues during the first year of regulation.

<sup>18</sup> Id. at 6.

<sup>19</sup> Publicly traded MSOs would naturally be reluctant to discuss specific details of the impact of re-regulation for fear of alarming shareholders. Thus, their public assessments of this impact would tend not to be as definitive as they otherwise might be.

<sup>20</sup> Id.

<sup>21</sup> Id.

Third, as the preceding section explained, the Commission's regulations offer cable companies no ready means to recover capital investment in advanced technology. Instead, the only way to attempt to recover those costs is by undertaking a cost-of-service showing. This escape valve offers little near-term relief, however, given the time necessary for the Commission to fashion standards for those showings and then cope with the certain administrative backlog of such filings and appeals. Even if these initial problems could be resolved, the cost-of-service method of recovering costs may well prove too protracted and



while the imposition of [regulation] would have resulted in the generation of negative \$10 million dollars in funds available for network upgrades and expansion over the same three year time frame."<sup>23</sup>

The Deloitte Study concludes that the composite cable company "would have had insufficient cash flow to finance capital expenditures."<sup>24</sup> The bleak outlook for cash flow would drive away potential investors as a source of investment in advanced technology, leaving cable operators struggling to cover their fixed -- much less discretionary -- expenses.<sup>25</sup>

Thus, as a direct result of plummeting capital investment, analysts anticipate that cable's deployment of optical fiber and other advanced technologies will drop in 1994 and beyond.<sup>26</sup> Those operators who still go forward

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<sup>23</sup> Id. at 5. Indeed, this may understate the shortfall for capital expenditures, given that the companies included in the composite model in reality underwent some restructuring from debt to equity, which made possible the

with system upgrades will probably do so only at a much slower pace.<sup>27</sup> Other systems likely will let their systems age, without upgrading. For example, since the Commission's vote on rate regulation, Scientific-Atlanta is aware of \$10 million in specific orders for addressable and subscriber equipment that have been delayed or curtailed. The status of up to \$10 million in other orders is in doubt. On the distribution side as well, Scientific-Atlanta has experienced \$10-20 million in delayed or curtailed orders.

In the end, the resulting drop in the rate of cable deployment of advanced technology will delay the delivery of improved service to subscribers and undercut the competitive posture of the industry at home and abroad. Simply put, the disincentives created by the current rate regulations will keep many cable subscribers waiting years for the "500 channel" video future that they thought lay just around the corner. Advanced technology's benefits for basic and expanded basic cable subscribers, however, are hardly limited

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<sup>26</sup>(...continued)  
this year may, in many cases, go forward. While some reduction may be witnessed in 1993, the greatest impact will be felt after this year. Capital budgets for 1993 have already been established for the most part, and purchase orders have already been issued for the spring and summer construction season. Whether the lag in the current rules' impact proves to be a matter of months or a year, however, the adverse nature of that impact is near certain.

<sup>27</sup> Based on the historical precedent of the HLT experience, see supra note 14, Corning anticipates that overall capital investment could fall to 50 percent of current levels.

to the futuristic. Fiber optics and other advanced technologies provide subscribers substantial benefits in such mundane, but no less important, ways as system reliability and signal quality. Because cable operators are largely in

taking concrete steps to deploy fiber optics.<sup>29</sup> The competitive advantage of this strategy is obvious. Early development and deployment of advanced broadband networks will win these nations a dominant position in the international markets for telecommunications equipment and services, both by creating and by attracting world class businesses.<sup>30</sup>

As the Commission well understands, U.S. competitiveness abroad rests heavily on maintaining its preeminence in telecommunications technology -- and that preeminence is

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<sup>29</sup> For example, Japan already has issued development contracts to initiate its plan to fully wire the country with fiber optics by 2015. Germany has aggressive plans for deploying fiber, rather than copper, in new builds in unserved areas such as the former East Germany. See TIA Comments at 16.

Indeed, development of advanced cable infrastructure is proliferating rapidly across the globe. Also among the leaders is the United Kingdom, which is deploying an advanced fiber optic infrastructure to nodes of 2,000 subscribers, capable of delivering both telephony and video services, in a much more welcoming regulatory environment. Scientific-Atlanta is aware of ongoing efforts in many other nations, including (but not limited to) the People's Republic of China, Canada, Mexico, Brazil, Argentina, Taiwan, South Korea, Turkey, Saudi Arabia, and Australia. In most of the industrial countries where cable technology is being deployed, the incentives appear to be greater generally because rates are higher. For example, rates in Japan are \$0.80 to \$1.25 per channel, and rates in Europe generally average about \$0.70 to \$1.00 (and lower where governments provide direct subsidies for service). By contrast, rates reportedly average about \$0.55 per channel in the United States, a figure certain to fall still lower once rate regulation is implemented.

<sup>30</sup> As Corning and other manufacturers have repeatedly stressed, the market for communications software traditionally has developed only after the hardware is in place. See id. at 16 & n.17.

threatened.<sup>31</sup> Because of the growth rate in their domestic deployment of optical fiber and other advanced technology, U.S. cable operators have been increasingly well positioned to export their broadband technical expertise and investment wisdom to foreign markets.<sup>32</sup> Similarly, U.S. manufacturers developing broadband hardware and software to satisfy demand at home would have better products and greater knowledge with which to penetrate overseas markets.<sup>33</sup> Significantly, the benefits of a highly competitive posture will continue to

#### **IV. THE CURRENT RULES WILL FRUSTRATE THE ACHIEVEMENT OF VITAL NATIONAL COMMUNICATIONS POLICY GOALS**

The promotion of both programming diversity and investment in the nation's information infrastructure have long served as two of the most fundamental mandates of federal communications policy. Cable operators have proven themselves increasingly critical to the fulfillment of both of these objectives. Yet this tremendous potential will be frustrated if cable operators are denied the means to recover their investments in system expansion and upgrades.

While the Commission's programming diversity mandate is well established, the 1992 Cable Act itself recognizes that system improvements are essential to the substantial national interest in programming diversity. As enunciated in its "Statement of Policy", the Cable Act sought to "ensure that cable operators continue to expand, where economically justified, their capacity and the programs offered over their cable systems."<sup>35</sup>

The Commission has, as well, long encouraged cable systems to deploy the most modern and efficient technology. Congress ratified this goal in the Cable Communications Policy Act of 1984.<sup>36</sup> The Commission has continued to encourage cable companies to invest in infrastructure

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<sup>35</sup> The Cable Television Consumer Protection and Competition Act of 1992, P.L. 102-385, § 2(b)(3) (1992) ("1992 Cable Act").

<sup>36</sup> See H.R. Rep. No. 934, 98th Cong., 2d Sess. at 27-28 (1984), reprinted in 1984 U.S.C.C.A.N. 4664-65.

development in recent years, while it has long encouraged such telephone company investment as well.<sup>37</sup> At a time when the Administration and Congress are seeking ways to foster "information superhighways" and other major infrastructure investment, the national interest in spurring -- not stifling -- cable capital investment is even more compelling.<sup>38</sup>

Cable companies, as discussed earlier, have indeed well positioned themselves to play a key role in the information

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<sup>37</sup> See Teleport Communications-New York, 7 FCC Rcd 5986 (1992). The Commission's desire to promote infrastructure development prompted it to authorize telephone companies to provide "video dialtone service." Telephone

infrastructure in the years to come. The national policies  
favoring increased investment in the communications

infrastructure that should enable us to catch up with the



full recovery of the capital investment in system expansion and upgrades will provide cable operators with the basic marketplace incentives to invest in such improvements. Accordingly, Corning and Scientific-Atlanta submit that the Commission should modify its rate regulation rules to allow cable operators to recover their investment in system improvements, going forward, through a pass-through mechanism.

Such pass-throughs are supported by the 1992 Cable Act, which not only endorses these national objectives but also specifically contemplates that cable operators will recover their system costs. Section 623(b)(2) of the Act<sup>40</sup> provides that basic tier rates shall take into account the "direct costs" of transmitting signals carried on the basic service tier, as well as a reasonable portion of the joint and common costs of transmitting and providing such signals. Section 623(c)(2) of the Act<sup>41</sup> explicitly provides that rates for cable programming services should recover the capital and operating costs of cable systems, which would include an incentive in the form of a return on investment. These provisions provide ample statutory support for pass-throughs of capital investment going forward, and indeed such a pass-through would well balance the competing considerations embodied in the Act.

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<sup>40</sup> 47 U.S.C. § 543(b)(2).

<sup>41</sup> 47 U.S.C. § 543(c)(2).